

I CLAIM:

1. A protein-maximized, fat and carbohydrate minimized liquid food supplement composition, comprising:

- a) between about 30% and about 65% by weight water soluble protein;
- 5 b) less than about 3% by weight of a non-nutritive intense sweetening agent;
- c) between about 0.1% and about 5% by weight of a flavoring agent; and
- d) between about 27% and about 70% by weight of an aqueous emulsifying dispersion.

10 2. The protein-maximized, fat and carbohydrate minimized liquid food supplement composition of Claim 1 wherein the between about 30% and about 65% by weight water soluble protein includes an amino acid profile with between about 4.5 % and about 7.2 % by weight of alanine, between about 2.6 % and about 6.0 % by weight of arginine, between about 5.0 % and about 9.5 % by weight of aspartic acid, between about 2.0
15 % and about 5.0 % by weight of cystine, between about 12.0 % and about 17.0 % by weight of glutamic acid, between about 2.0 % and about 4.5 % by weight of glycine, between about 2.0 % and about 4.0 % by weight of histidine, between about 3.0 % and about 5.0 % by weight of isoleucine, between about 9.0 % and about 11.0 % by weight of leucine, between about 7.0 % and about 10.5 % by weight of lysine, between about 1.5 % and about 2.5 % by
20 weight of methionine, between about 5.0 % and about 8.0 % by weight of phenylalanine, between about 6.0 % and about 15 % by weight of proline, between about 5.0 % and about 9.0 % by weight of serine, between about 5.0 % and about 8.5 % by weight of threonine, between about 1.0 % and about 3.0 % by weight of tryptophan, between about 1.5 % and about 4.5 % by weight of tyrosine, and between about 6.0 % and about 8.0 % by weight of
25 valine.

3. The protein-maximized, fat and carbohydrate minimized liquid food supplement composition of Claim 1 wherein the protein further incorporates a dietetically effective amount of a pyruvate compound.

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4. The protein-maximized, fat and carbohydrate minimized liquid food supplement composition of Claim 1 wherein the non-nutritive intense sweetening agent is a sucralose.

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5. The protein-maximized, fat and carbohydrate minimized liquid food supplement composition of Claim 1 wherein the aqueous emulsifying dispersion incorporates a powdered, hydrated lecithin in an amount of between about 2 % and about 10 % by weight of the food supplement composition.

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6. The protein-maximized, fat and carbohydrate minimized liquid food supplement composition of Claim 1 being frozen and wherein the hydrated lecithin is incorporated in an amount of between approximately 7% by weight of the food supplemental composition.

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7. The protein-maximized, fat and carbohydrate minimized liquid food supplement composition of Claim 1 wherein the aqueous emulsifying dispersion incorporates an organoleptically enhancing reduced fat content milk composition.

8. The protein-maximized, fat and carbohydrate minimized liquid food supplement composition of Claim 7 wherein the reduced fat content milk composition is a soy milk.

5 9. The protein-maximized, fat and carbohydrate minimized liquid food supplement composition according to Claim 1 prepared as a sherbet that further includes in amounts by weight of the food supplement composition, the water soluble protein being in an amount of between about 35% and about 45% by weight, the sweetening agent in an amount of between about 1% and about 3% by weight, the flavoring agent in an amount of between
10 about 0.5% and about 2% by weight, and the aqueous emulsifying dispersion in an amount of between about 45% and about 60% by weight.

10. The protein-maximized, fat and carbohydrate minimized liquid food supplement composition according to Claim 1 prepared as a sherbet that further includes in
15 amounts by weight of the food supplement composition, the water soluble protein being in an amount of about 42% by weight, the sweetening agent in an amount of about 2% by weight, the flavoring agent in an amount of about 1% by weight, and the aqueous emulsifying dispersion in an amount of about 55% by weight.

20 11. A protein-maximized, fat and carbohydrate minimized food supplement sherbet, comprising:

- a) between about 30% and about 65% by weight water soluble protein;
- b) less than about 3% by weight of a non-nutritive intense sweetening agent;
- c) between about 0.1% and about 5% by weight of a flavoring agent; and

d) between about 27% and about 70% by weight of an aqueous emulsifying dispersion that incorporates a reduced fat milk composition and a lecithin component in an amount of between about 1.5 % and about 7 % by weight of the food supplement composition.

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12. The protein-maximized, fat and carbohydrate minimized food supplement sherbet according to Claim 11 wherein the water soluble protein includes an amino acid profile with between about 4.5 % and about 7.2 % by weight of alanine, between about 2.6 % and about 6.0 % by weight of arginine, between about 5.0 % and about 9.5 % by weight of aspartic acid, between about 2.0 % and about 5.0 % by weight of cystine, between about 12.0 % and about 17.0 % by weight of glutamic acid, between about 2.0 % and about 4.5 % by weight of glycine, between about 2.0 % and about 4.0 % by weight of histidine, between about 3.0 % and about 5.0 % by weight of isoleucine, between about 9.0 % and about 11.0 % by weight of leucine, between about 7.0 % and about 10.5 % by weight of lysine, between about 1.5 % and about 2.5 % by weight of methionine, between about 5.0 % and about 8.0 % by weight of phenylalanine, between about 6.0 % and about 15 % by weight of proline, between about 5.0 % and about 9.0 % by weight of serine, between about 5.0 % and about 8.5 % by weight of threonine, between about 1.0 % and about 3.0 % by weight of tryptophan, between about 1.5 % and about 4.5 % by weight of tyrosine, and between about 6.0 % and about 8.0 % by weight of valine.

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13. The protein-maximized, fat and carbohydrate minimized food supplement sherbet according to Claim 11 wherein the protein further incorporates a dietetically effective amount of a pyruvate compound.

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14. The protein-maximized, fat and carbohydrate minimized liquid food supplement composition of Claim 11 wherein the non-nutritive intense sweetening agent is a sucralose.

5 15. The protein-maximized, fat and carbohydrate minimized liquid food supplement composition according to Claim 11 that further includes in amounts by weight of the food supplement composition, the water soluble protein being in an amount of between about 35% and about 45% by weight, the sweetening agent in an amount of between about 1% and about 3% by weight, the flavoring agent in an amount of between about 0.5% and
10 about 2% by weight, and the aqueous emulsifying dispersion in an amount of between about 45% and about 60% by weight.

16. The protein-maximized, fat and carbohydrate minimized liquid food supplement composition according to Claim 11 that further includes in amounts by weight of
15 the food supplement composition, the water soluble protein being in an amount of about 42% by weight, the sweetening agent in an amount of about 2% by weight, the flavoring agent in an amount of about 1% by weight, and the aqueous emulsifying dispersion in an amount of about 55% by weight.

20 17. A protein-maximized, fat and carbohydrate minimized powdered food supplement, comprising:

- a) between about 30% and about 65% by weight water soluble protein;
- b) less than about 3% by weight of a non-nutritive intense sweetening agent;
- c) between about 0.1% and about 5% by weight of a flavoring agent;

d) between about 27% and about 70% by weight of an aqueous emulsifying dispersion that incorporates a lecithin component in an amount of between about 1.5 % and about 7 % by weight of the food supplement composition; and

wherein the supplement is prepared in a substantially liquid formulation and then
5 dried and refined into the substantially powdered supplement.

18. The protein-maximized, fat and carbohydrate minimized food supplement according to Claim 17 wherein the water soluble protein includes an amino acid profile with between about 4.5 % and about 7.2 % by weight of alanine, between about 2.6 % and about
10 6.0 % by weight of arginine, between about 5.0 % and about 9.5 % by weight of aspartic acid, between about 2.0 % and about 5.0 % by weight of cystine, between about 12.0 % and about 17.0 % by weight of glutamic acid, between about 2.0 % and about 4.5 % by weight of glycine, between about 2.0 % and about 4.0 % by weight of histidine, between about 3.0 % and about 5.0 % by weight of isoleucine, between about 9.0 % and about 11.0 % by weight of
15 leucine, between about 7.0 % and about 10.5 % by weight of lysine, between about 1.5 % and about 2.5 % by weight of methionine, between about 5.0 % and about 8.0 % by weight of phenylalanine, between about 6.0 % and about 15 % by weight of proline, between about 5.0 % and about 9.0 % by weight of serine, between about 5.0 % and about 8.5 % by weight of threonine, between about 1.0 % and about 3.0 % by weight of tryptophan, between about 1.5
20 % and about 4.5 % by weight of tyrosine, and between about 6.0 % and about 8.0 % by weight of valine.

19. The protein-maximized, fat and carbohydrate minimized food supplement according to Claim 17 wherein the protein further incorporates a dietetically effective amount
25 of a pyruvate compound.

20. The protein-maximized, fat and carbohydrate minimized food supplement of Claim 17 wherein the non-nutritive intense sweetening agent is a sucralose.

5 21. The protein-maximized, fat and carbohydrate minimized food supplement according to Claim 17 that further includes in amounts by weight of the food supplement, the water soluble protein being in an amount of between about 35% and about 45% by weight, the sweetening agent in an amount of between about 1% and about 3% by weight, the
10 flavoring agent in an amount of between about 0.5% and about 2% by weight, and the aqueous emulsifying dispersion prior drying in an amount of between about 45% and about 60% by weight.

22. The protein-maximized, fat and carbohydrate minimized liquid food supplement according to Claim 17 that further includes in amounts by weight of the food
15 supplement, the water soluble protein being in an amount of about 42% by weight, the sweetening agent in an amount of about 2% by weight, the flavoring agent in an amount of about 1% by weight, and the aqueous emulsifying dispersion prior to drying in an amount of about 55% by weight.

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